SEQUENCE LISTING

<110> KAKEFUDA, GENICHI
KOOP, HANS-ULRICH
STURNER, STEPHEN
ZHEN, RUI-GUANG

<120> CYANOBACTERIAL NUCLEIC ACID FRAGMENTS ENCODING PROTEINS USEFUL FOR CONTROLLING PLANT TRAITS VIA NUCLEAR OR PLASTOME TRANSFORMATION

<130> BASF 100,100 PRV

<140> 09/893,033
<141> 2001-06-27

<150> 60/214,705
<151> 2000-06-27

<160> 19

<170> PatentIn Ver. 2.1

<210> 1
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 1
cgaattccct ggtagcattt aatacaaatt ggc 33

<210> 2
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 2
cgcataagct ttgcagatgg agacggtttg ggc 33

<210> 3
<211> 1735
<212> DNA
<213> Synechocystis sp.

<400> 3
ccctggtagc atttaataca aattggctat cttggcaaag tcccccgaaa tattacgaaa 60
cgtaaagtat aataacaatc aacctgtaaa ccccaaatgc cttagcgaga cagtaaccca 120
tgcgcgttgt gatcgccgga gccggattag ccggcctagc ctgtgccaaa tacttagccg 180
atgcgggctt tacccccgtc gtcttggaac gtagggatgt attaggcggg aagatcgccg 240
cgtggaaaga tgaggacgga gattggtacg aaaccggcct acacattttt tttggggcct 300

atcccaacat gttgcagtta tttaaggaat tggatatcga agatcgtctg caatggaaag 360
agcacagcat gatcttcaac caaccagaga aaccaggtac ctactctcgg ttcgattttc 420
cggatattcc ggcccccatc aatggtttgg tagccattct tcgcaacaac gatatgctta 480
cctggccgga gaaaattcgc tttggcttgg gactcttgcc ggccattgtc cagggccaga 540
gctatgtgga agaaatggat aaatacactt ggtcagagtg gatggccaaa caaaatattc 600
ccccccgcat cgaaaaagaa gttttcattg ccatgagtaa gacgttgaac tttattgatc 660
ccgatgaaat ttccgccacc attttactta ctgccctcaa tcgcttttta caggaaaaaa 720
atggctctaa gatggcattc ctggatgggg caccaccgga gcgtctttgc caacctttgg 780
tcgactatat tacggaacgg ggaggggaag tacacattaa taaacctctc aaagaaattt 840
tgcttaatga agatggttcc gttaagggtt acttaatccg gggcctagat ggagcccccg 900
acgaagtgat cacagcggat ttatatgtgt ctgccatgcc ggtggatccc ctgaaaacca 960
tggtgccagc gccctggaga gaatatcctg agtttaagca aatccaaggt ttggaaggag 1020
tcccggtcat taacctccac ctgtggtttg accgtaagtt aaccgacatt gatcatttgt 1080
tattctcccg atcgccgttg ttgagtgttt acgccgacat gagcaacacc tgccgagaat 1140
acagtgatcc agacaaatcc atgttggaat tggtgctggc tccggcccag gattggatcg 1200
gcaaatccga cgaagagatt gtggcggcca ccatggcgga gatcaagcaa ctctttcccc 1260
aacacttcaa cggggataat ccagcccgac tgcttaaatc ccacgtggtc aaaacccccc 1320
gctcagtcta caaagctacc cccggaaggc aggcttgtcg ccccgatcaa cggacatcgg 1380
tgcccaactt ttacctagca ggggacttca ccatgcaaaa atacttgggc agtatggaag 1440
gggcggtgct ttccggcaaa caatgcgccc aggcgatcgc cgccgatttc aacccccaaa 1500
ccgttccccc caccagggaa atagtcaccg tgggttaagc cgcctggact ccctggtaat 1560
cttcctgaca aatggcaacc ctaatgcgac aatgctaaat ggctaacggt caaatttctc 1620
cccagcgtgc agttaccaaa ccccaatcct ggtggctgac ttccgaaccc cgtccgtcct 1680
taatgttaca actgcccaaa ccgtctccat ctgcaaagcc ctgtgcttct gttga 1735

<210> 4
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<220>
<221> modified_base
<222> (3)
<223> a, g, c or t

<220>
<221> modified_base
<222> (6)
<223> a, g, c or t

<220>
<221> modified_base
<222> (12)
<223> a, g, c or t

<400> 4
ggnacngayg cnttycarga 20

<210> 5
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<220>
<221> modified_base
<222> (10)
<223> a, g, c or t

<220>
<221> modified_base
<222> (13)
<223> a, g, c or t

<400> 5
ytsccaytgn cknaccat 18

<210> 6
<211> 1959
<212> DNA
<213> Synechocystis sp.

<220>
<221> modified_base
<222> (1843)
<223> a, t, c, g, other or unknown

<400> 6
gccataggag cccatcgccg attgagttca aattagaagc acttagccta cgcttcctaa 60
accgattgtc cagtggttgc atcaattcct aatcccaaaa caaatttcct gaaaactgtt 120
cctagccaac ggcaaaccgg ggcttatatc ctgatggata gcctgaaacg ccatggggtc 180
aaacacattt ttggctatcc cggcggggca attttgccca tctatgatga actgtaccgc 240
tttgaagcgg cgggggaaat tgagcatatt ttggtgcgcc atgaacaagg agcttcccat 300
gcggcggatg ggtatgccag agccacaggt aaagtgggag tttgtttcgg tacatctgga 360
ccaggggcga ctaacttggt gaccggcatt gccaatgccc atttggactc ggtgcccatg 420
gtggtgatta ctggagaggt gggccgtgcc atgattggta gcgatgcttt ccaggaaatt 480
gacatttttg gcatcacctt accgatcgtt aagcactcct atgtggtacg tagtgcggcg 540
gatatggctc gcattgttac tgaggctttc catcttgcta gcaccggtcg tcccgggccg 600
gttttgatcg atattcccaa ggatgtgggc ttagaagaat gtgagtacat tcccctcgac 660
cccggtgacg ttaatctacc gggttatcgc cccacggtta aaggtaatcc ccgacaaatt 720
aatgcggcat tgcaattgtt ggagcaggcc agaaatccct tgctctacgt agggggaggg 780
gcgatcgccg ccaatgccca tgcccaggtg caggaatttg cggaaaggtt ccagttgccg 840
gtaacaacca ccctgatggg aattggggct tttgacgaaa accatcccct ttcggtgggt 900
atgttgggta tgcatggcca ccgctatgcc aactttgccg tcagcgaatg tgatttgttg 960
attgcagtgg gggcccgttt cgacgaccgg gtaactggca aactagacga atttgctagc 1020
cgcgccaaag taattcacat tgacatcgac ccggcggagg tgggaaaaaa cagggctccc 1080
gatgtgccca ttgtggggga tgtacgccat gttttagaac agcttttgca gcgggcccgg 1140
gaattggatt accccaccca tccccatacc acccaggcat ggttaaatcg cattgatcat 1200
tggcggaccg attacccccc ccaggtgccc cactatgagg atactattgc cccccaggag 1260
gtagtacacg aaattggtcg ccaggccccc gatgcctact acaccaccga tgtgggacaa 1320
caccaaatgt gggcggccca gtttttgaac aatggccccc gccgatggat ttccagtgct 1380
ggcttgggta cgatgggctt tggtttacct gccgccatgg gagccaaagt gggagtgggg 1440
gacgagcggt catttgcatc agtggagatg ccagcttcca aatgaatctt caggaactgg 1500
gaaccctagc ccagtacgac atccaggtta aaactattat tctcaataac ggttggcagg 1560
ggatggtgcg tcagtggcaa caaactttct acgaagaacg ttattctgct tctaacatgt 1620
cccagggcat gccagacatt aatctcctct gtgaagccta tggcatcaag ggtattactg 1680
tgcgcaagcg ggaagatttg gccccggcga tcgccgaaat gctagcccac aatggtcctg 1740
tggtgatgga tgtggtggtc aaaaaagatg aaaactgtta ccctatgatt gccccccggca 1800

tgagtaatgc ccaaatgcta ggtttaccgg aagtgccggt acnggacaat ggtccccgga 1860
tggtggagtg caaccattgc caaacccaaa atttcatcac ccatcgtttc tgttctggtt 1920
gtggagccaa actctaaccc ataagccaaa attgaattc 1959

<210> 7
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 7
attgacattt ttggcatc 18

<210> 8
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 8
tatccgccgc actacgtac 19

<210> 9
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 9
caggggcgac taacttggtg ac 22

<210> 10
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 10
accgctatgc caactttgcc gt 22

<210> 11
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 11
ggaggatagt acacgaaatt gg 22

<210> 12
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 12
aaatcttccc gcttgcgcac ag 22

<210> 13
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 13
ccaatttcgt gtactacctc ctg 23

<210> 14
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 14
aaagtgggag tgggggacga a 21

<210> 15
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 15
cggtggaatt ttaccccaat gg 22

<210> 16
<211> 23

<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 16
ggccctaaaa cttggattcc agg 23

<210> 17
<211> 565
<212> DNA
<213> Synechocystis sp.

<400> 17
gtggaatttt accccaatgg ccaccggcga tcgccttctt tgccccccat gaaacacacc 60
ctctctgttt tagttgaaga tgaagccgga gtgctaaccc gcattgccgg actatttgcc 120
cgccgtggtt ttaacattga gagcttggcg gtggggtcgg cggaacaggg ggacgtttcc 180
cgcatcacca tggtggtgcc gggggatgag aacaccatcg aacaactgac caagcaactc 240
tacaagttgg ttaacgtaat taaagtacag gacatcaccg aaactccctg tgtggaaagg 300
gaattgatgc tggtgaaggt gagcgccaat gcccctaacc gagcggaagt gattgagcta 360
gcccaggtat tccgggcccg cattgtggat atctccgaag acaccgtcac catcgaatgg 420
tgggggaccc gggtaaaatg gtagcaatcc tccagatgtt ggccaagttg gcattaaaga 480
ggtggctcga acgggcaaaa ttgctttggt gcgggaatcc ggcgtcaata cggaatatct 540
gaaatccctg gaatccaagt tttag 565

<210> 18
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 18
ggctgatatc ctgatggata gcctg 25

<210> 19
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 19
ttggcttacc ggttagagtt tggctccaca 30